DNR Briefing Material - Volume 3

November 2004

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Introduction

This volume of briefing materials (Volume 3) provides responses to the following questions raised by the Independent Review Committee at Meeting # 2 (October 22, 2004):

1. Can DNR increase net revenue by harvesting more timber?

2. Is DNR's timber price forecast reasonable?

3. How have recent expenditures been reduced?

4. What are the detailed management expenditures currently made with DNR's 25 percent share of gross revenues?

5. How, in detail, does DNR proposed to spend the projected $10 million dollar annual increase in management expenditures it says is needed to implement the Board of Natural Resources direction to increase harvests?

6. What would be the financial impact on trust beneficiary revenue and management fund balance from increasing the harvest level to the board-approved level while increasing the maximum management fee deduction to 30 percent?

1. Can DNR increase net revenue by harvesting more timber?

On September 2004, the Board of Natural Resources, after over three years of analysis, technical review, and public participation, reached a unanimous decision to increase Western Washington's sustainable timber sales volume to 597 mmbf per year over the 2005-14 decade. This is a 3.8 percent increase from the last scientifically analyzed harvest calculation done in 1996. This also compares to the 2004 sales level for western Washington of 440 mmbf.

The Board decided this is the most prudent harvest level, in the interest of trust beneficiaries, which meets trust obligations, is sustainable over the long term, meets DNR's contractual HCP commitments under the Federal Endangered Species Act and Clean Water Act, and can be accomplished by the department through aggressive implementation schedules. The Board's rationale for selecting this level, rather than alternatives with higher average annual harvest volumes, included several considerations:

1. avoiding large annual or decadal swings in volume which would be disruptive for some beneficiaries;
2. employing active innovative forestry techniques which will accelerate development of structurally complex forests (an HCP requirement) while increasing trust revenue, thereby providing more management flexibility; and
3. incorporating aggressive but reasonable expectations about DNR's implementation of higher levels. Under the Board's decision, to employ active management over a larger portion of the landscape, average harvest levels in the second decade will be 574 mmbf/yr.

Because of the nature of DNR's variable and fixed costs, expenditures exceed management fund revenues at the current volume, price, and current statutory ceiling. DNR's projections show that simply increasing volume alone, to the new level set by the Board, will not reverse this trend. Therefore, at higher volumes, total expenditures continue to exceed total management fund revenues, leading to a rapid depletion of the management funds. See tables in the section addressing question #6.

2. Is DNR's Timber Price Forecast Reasonable?

About 85 percent of total trust revenue is from timber sales. As a result, changes in timber prices have immediate and dramatic impact on total trust land revenue. For example, if timber prices were to be 10 percent higher for the next 10 years, total revenue would increase about $170 million; similarly, a sustained drop would reduce total revenue by the same amount. For the management funds, such changes would increase or decrease the FY 2015 fund balance by about $50 million.

Macro-economic forces control prices of goods produced on trust lands. These forces include but are not limited to

- Supply: international, national and regional;
- Demand: international, national and regional;
- Relative strength of currency: the value of the US dollar versus the Canadian dollar versus other currencies; and
- Economic growth: differential rates by nations ultimately influence the previous factors.

Long-term historical timber price trends appear to have changed. Real price appreciation for timber in the U.S. was a trend for nearly a century. Today, the trend is more toward stable prices. When combined with the effects of inflation, this means a reduction in *real* prices.

Certain historical patterns may no longer be valid:

> *To meet the increasing demand, new sources of wood fiber have been developed over the past twenty years, as well as more efficient ulitilization of existing sources and increased recycling. As a result, the world supply of timber is moving from an era of relative scarcity to one of relative abundance and from regional markets to global markets.* [1]

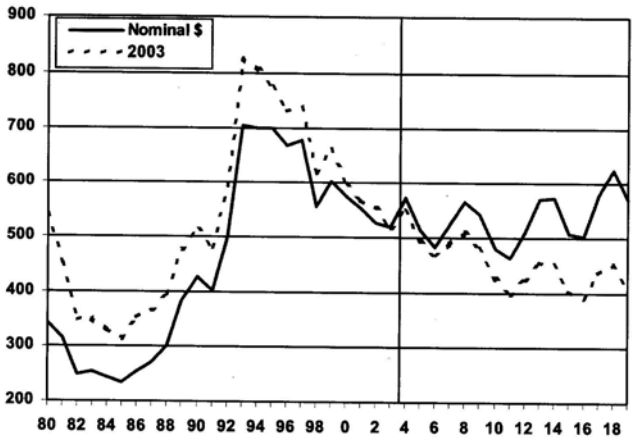
This trend is clearly demonstrated by the following excerpted data (Figure 2.1), which shows actual and forecasted prices for delivered logs. Trust land timber revenue directly follows delivered-log prices. While not all trust timber is Douglas fir, this species represents the majority of the total sales value, making this chart representative of possible revenue trends. The DNR revenue forecasts are based on this underlying data, and in turn, the financial analyses we have prepared are based on our revenue forecasts.

The department subscribes to two forecasting services: Resource Information Systems, Inc. (RISI) and Clear Vision & Associates (CV). In addition to their forecasts, these organizations provide consulting services to the department. The department also subscribes to a number of industry publications including Log Lines, Random Lengths, Western Wood Products, Midman's Market Barometer, and the Wall Street Journal that provide information on current and projected market conditions. The department also uses internal tracking and reporting systems to provide information on historical timber sales and removal volumes, timber sales and removal prices, the volume and value of timber under contract and timber, and non-timber revenues.

[1] Economic Research, The Campbell Group, LLC, James Stevens, Ph. D, Forest Economist, June 2002

Figure 2.1 – Delivered Log Prices

Figure 1
U.S. West Coast Douglas Fir Delivered Log Prices
$/MBF, Scribner



- Over the 15-year forecast period, West Coast sawlog prices will trend lower on an inflation-adjusted basis. A healthy expansion in the inventory of second-growth timber on the region's private forests will be a key factor in restraining upward movements in West Coast softwood sawtimber prices. In addition, growing competition from lumber and panel producers in other supply regions in North America and offshore will limit the expansion of demand for West Coast softwood sawtimber. Inflation-adjusted delivered log prices for Douglas Fir sawtimber will slip 25% between the periods 2000–2004 and 2015–2019 (Table 1).

Table 1
Western Washington and Oregon Delivered Log Prices
Dollars per MBF, Scribner

	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019
Nominal Dollars						
Douglas Fir	547	642	550	526	519	557
White Woods	427	490	395	404	398	427
Adjusted for Inflation 2003 $						
Douglas Fir	646	706	557	487	432	419
White Woods	504	540	400	374	332	321

Note: Prices include costs of harvest and delivery to mill.

Note: This data is abstracted from RISI North American Timber Forecast in an article titled "Timber Prices" by Balter & Barynin

Although timber prices may increase, they may also decline to levels below what has been forecasted. If timber prices outperform the forecast, then the amount of money returned to the beneficiaries would be increased.

At present, real revenue available to manage trust assets is declining. This decline in real revenue is driven by the decline in real prices of timber over time. For example in the 2001–03 biennium, timber revenue was the lowest since 1969-71.

Influence of timber prices on management fund share

Subject to the ceiling in current law, the Board of Natural Resources has the authority to adjust the cash flow necessary to maintain appropriate management fund balances. The Board has a history of adjusting the percentage of revenue allocated to the management funds, sometimes equal to the statutory ceiling or at other times, below the ceiling. For example, the Forest Development Account now receives 22 percent of revenue from State Forest Transfer lands, but the statutory ceiling is 25 percent.

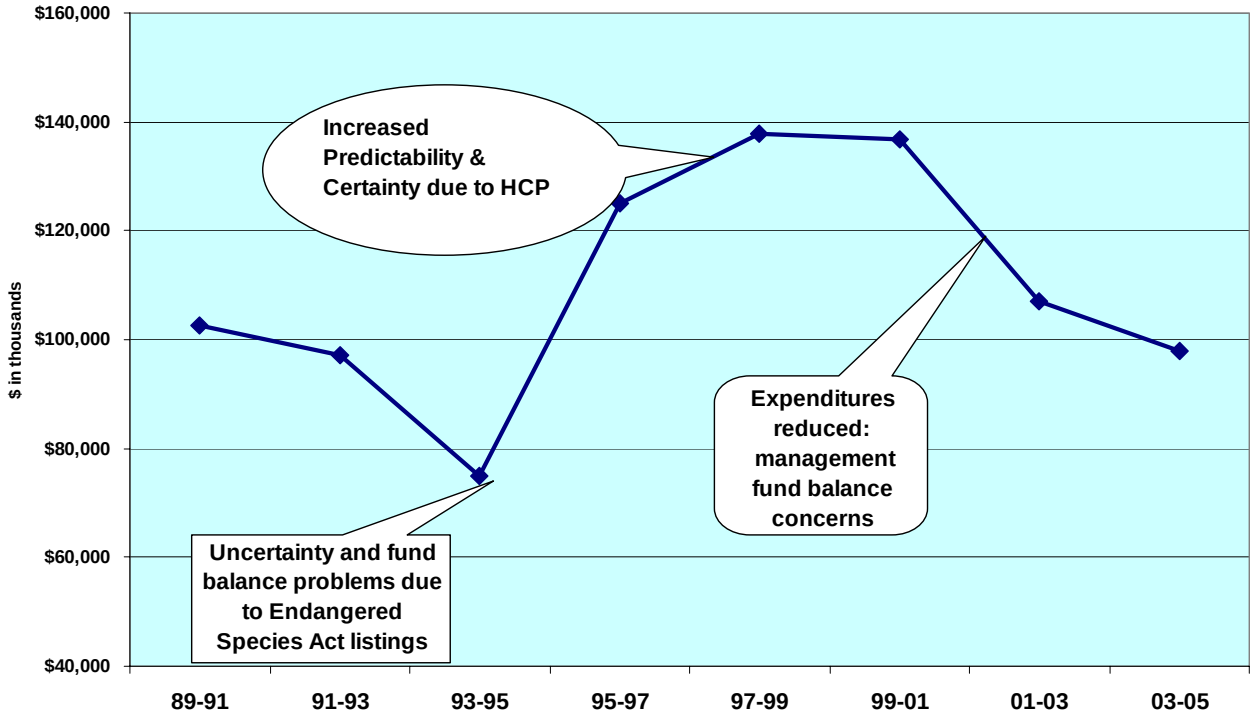
To address price uncertainty and operating cycles, DNR takes the approach that some fund balance is necessary as a shock absorber.

3. How have recent expenditures been reduced?

Management fund (RMCA and FDA) expenditures have increased or been reduced to fit then current circumstances. Figure 3.1 shows the actual expenditures from the management funds for the previous seven biennia and projections for the current biennium.

Figure 3.1

Figure 3.1 Management Fund Expenditures by Biennium
Source Data: DNR Annual Reports except for proejctions for biennium 03-05



4. What are the detailed management expenditures currently made with DNR's 25 percent share of gross revenues?

While meeting increased expectations, DNR has substantially reduced expenditures to reflect the realities of lowered revenues. The Resource Management Cost Account expenditures are the lowest since 1970, when expressed in real 2003 dollars.

Yet, to manage these multi-billion dollar trust lands, money from the Resource Management Cost Account and Forest Development Account—the "management funds"—must be spent. The majority of the trust land management expenditures are for personnel—the DNR employees that provide the scientific, professional, managerial and administrative resources to manage 2.9 million acres of trust lands spread across the nearly 43 million acres of the state. Other costs are for goods and services; interagency payments for building rent, audit services and Attorney General legal help; and payment for fire protection services.

The state trust lands have a high quality forest inventory that needs to be maintained to make forest management and forest marketing effective. Expenditures cover capital improvements and long-term land management investments such as tree planting, thinning, fertilization and tree improvement.

The size of the agency and its responsibilities allow for economies of scale. DNR's total budget for the current biennium, fiscal years 2004 & 2005, is $291 million. Of that, $98.7 million is from the "management funds." See Figure 4.1. Overhead costs are equitably distributed to all programs with trust land management benefiting from the existence of the agency-wide computer networks and other administrative systems. All programs, whether they are trust land or general fund (such as fire protection and forest practices) pay equitable shares that are subject to ongoing evaluation by the State Auditor.

Allocation of Management Funds within the DNR

As identified in the Briefing Material for the Independent Review Committee Volume 2, about 80 percent of the management funds goes directly to the Trust Land Management programs. The other roughly 20 percent goes to overhead costs and programs that benefit trust land management indirectly. See Figure 4.1, following.

Figure 4.1 Allocations of Management Funds within DNR: Total = $98.7 million

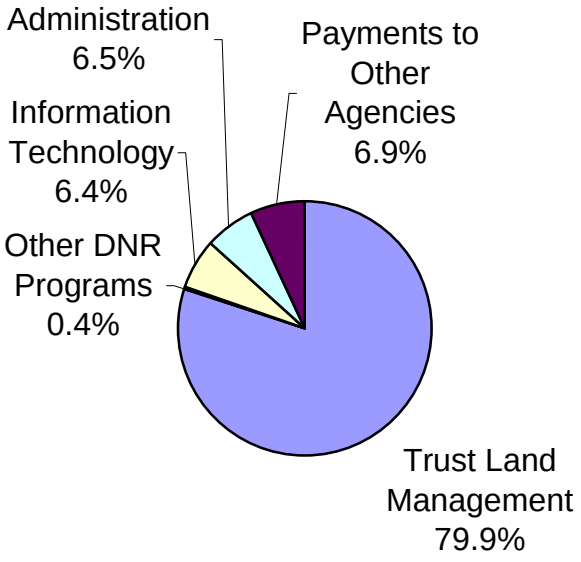
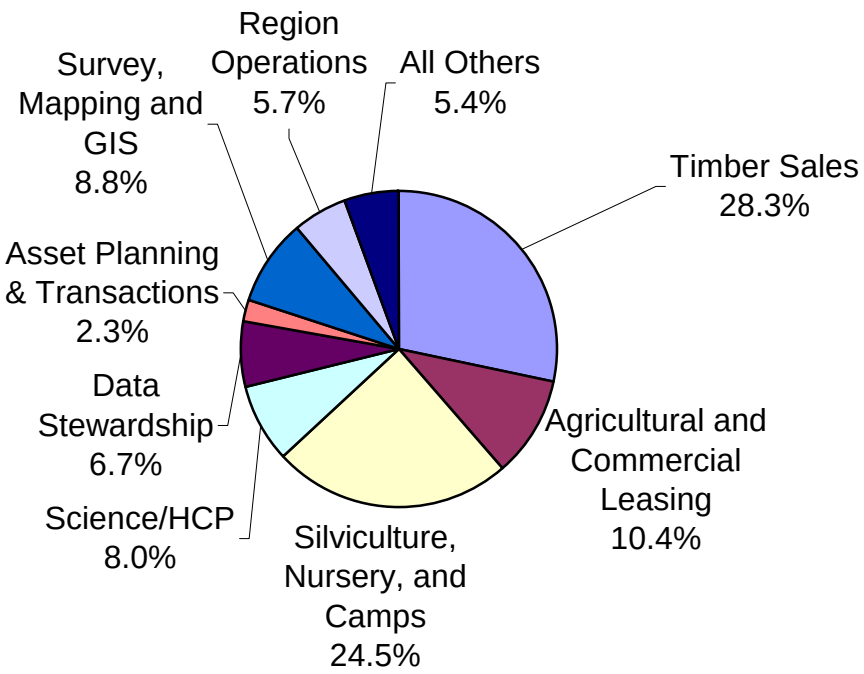


Figure 4.2 identifies how money is used within the large category of Trust Land Management identified in Figure 4.1. The total expenditures for this category are $78.9 million. The two largest elements, Timber Sales (field work necessary to prepare, market and administer timber sale contracts) and Silvicultural activities (for example, tree planting and thinning young stands to improve health and growth) are 53 percent of the Trust Land Management Program expenditures.

Figure 4.2 Management Funds Allocation to Trust Land Management Programs by Category: Total = $78.9 million



Description of trust land management program categories

Each program category shown in Figure 4.2 includes various activities. Major trust land management activities for each category are listed below.

- **Timber Sales:**
  - Identifying areas for timber harvest
  - Reconnaissance of the ground to identify logical harvest boundaries, road locations, environmental concerns
  - Survey of boundaries
  - Determination of timber volume and appraisal value
  - Develop timber sale contract and road engineering plan
  - Prepare a SEPA checklist and Forest Practices application
  - Post public notice of sale and respond to public comments
  - Market and advertise timber sale, hold public auction
  - Contract administration
  - Forest fire protection assessment

- **Agriculture and Commercial Leasing**
  - Identification of trust land suitable for agriculture and commercial leasing
  - Market and advertise properties
  - Appraise properties
  - Negotiate leases and determine lease rates
  - Conduct public auctions
  - Lease administration and re-appraisals
  - Capital improvements such as: wells, irrigation systems, commercial buildings

- **Siviculture, Nursery, and Camps**
  - Planting trees
  - Site preparation
  - Thinning of non-commercially sized trees
  - Vegetation control
  - Fertilization
  - Growing of seedlings
  - Genetic improvement of seedlings
  - Preparation and transportation of seedlings for planting

- **Science and HCP**
  - Scientific support for land management including Hydrologists, Wildlife Biologists, Forest Pathologists, Entomologists, Geologists, Silviculturalists, Plant Ecologists, and Fisheries Biologists
  - Implementation, research and monitoring of conservation objective specified in the HCP to comply with the Endangered Species Act obligations

- **Data Stewardship**
  - Inventory of Forest stands using GIS
  - Growth and yield modeling
  - Sustainable harvest analysis
  - Sustainable Harvest implementation

- **Asset planning and transaction**
  - Land use assessments of trust land parcels
  - Buy, sell, and trade trust assets to improve economic and ecological performance while diversifying the asset base
  - Law enforcement activities to protect trust assets

- **Survey, Mapping, and GIS**
  - Land surveys to establish legal boundaries
  - Resource photography; aerial photography
  - Development and maintenance of geographic information systems (GIS)
    - Development and support of multiple data layers to permit spatial analyses

- **Region Operations**
  - Six region offices and associated satellite work centers
    - Telecommunications, rent, and other charges
    - State lands support for vehicle and facilities operations
    - State lands support of administrative support personnel such as:
      - human resources
      - payroll
      - accounts payable/accounts receivable

5. How, in detail, does DNR propose to spend the projected 10 million dollar annual increase in management expenditures it says is need to implement the Board of Natural Resources' direction to increase harvests?

In September 2004, the Board of Natural Resources adopted a new sustainable harvest level, and directed an active management approach to increase revenue while developing healthy habitat, benefiting all of the people of the state of Washington.

The Board-approved Sustainable Management of Western Washington Trust Lands plan requires that an additional half- million acres would be more actively managed to bring important economic and ecological benefits.

Currently, DNR anticipates the need for some 95 additional employees over the next four years. Based upon the initial estimates approximately 85 percent would be hired for direct timber sales operations and 15 percent would be hired for related agency administrative activities. There are some fixed start-up costs for vehicles and other equipment. Most positions are field-level professionals necessary to make the complex decisions to capture the potential of the trust lands. The Board of Natural Resources was briefed on our hiring strategies. The following chart gives a preliminary breakdown of the various new positions planned for the next four years.

Figure 5.1

Figure 5.1 - NEW **Board Action Implementation - New FTE and Management Fund Costs**

	New FTE	%	FY05		FY06		FY07		FY08	
			FTE	Total $	FTE	Total $	FTE	Total $	FTE	Total $
Operating Programs										
Product Sales	53.3	55.9%	11.2	691,800	5.7	360,900	16.0	1,005,900	20.5	1,284,900
Silviculture	7.4	7.8%	3.5	216,200	3.9	246,900				
Science/HCP	3.7	3.9%	2.0	123,500	1.7	107,600				
Data Stewardship	4.8	5.0%					4.8	301,800		
Leasing & Right of Way	2.0	2.1%	2.3	142,100	0.7	44,300				
Correctional Camps										
Land Survey	4.0	4.2%	2.5	154,400	0.5	31,700				
GIS	6.0	6.3%			1.0	63,300			5.0	313,400
Agricultural Resources										
Resource Mapping										
Asset Planning & Transactions										
Seed Orchard & Seed Plant										
Law Enforcement										
State Lands Operations										
Natural Heritage										
Recreation										
Forest Roads										
Total Operating Expenditures	81.2	85.1%	21.5	1,328,000	13.5	854,700	20.8	1,307,700	25.5	1,598,300
Administration & Agency Support										
Financial Management	3.7	3.9%					3.7	232,600		
Information Technology	1.5	1.6%					1.5	94,300		
Region Administration	5.0	5.2%			1.0	63,300	4.0	251,400		
Commissioner's Office										
RTA System										
Attorney General	1.5	1.6%							1.5	94,000
Human Resources	1.5	1.6%							1.5	94,000
Facilities										
Budget & Economics										
Communications										
Environmental & Legal Strategies	1.0	1.0%							1.0	62,700
Total A&AS Expenditures	14.2	14.9%	0.0	0	1.0	63,300	9.2	578,300	4.0	250,700
FTE Totals by Year	**95.4**	**100.0%**	**21.5**	**1,328,000**	**14.5**	**918,000**	**30.0**	**1,886,000**	**29.5**	**1,849,000**
One-Time Equipment Costs				**539,000**		**294,000**		**588,000**		**588,000**
Forest Investment (PCT, Fertilization, Reforestation, etc.)						**2,766,000**				
Overall Board Action Implementation				**1,867,000**		**3,978,000**		**2,474,000**		**2,437,000**

6. What would be the financial impact on trust beneficiary revenue and management fund balance from increasing the harvest level to the Board-approved level while increasing the maximum management fee deduction to 30 percent?

The following information is provided to help answer the above question. While there are references to the management funds deduction increasing to 30 percent, the number is used as a financial and policy placeholder. It stands for a sum of money that comes from possible combinations of any of the following:

- Increased efficiencies within the DNR;
- Additional revenue into the management funds from any source; or
- An increase in the actual percentage of gross revenue going to management funds.

The tables are designed to quantify the financial impacts under differing sets of assumptions unique to each table. Note that the numbers used here are expressed in real terms; that is, the numbers are expressed in constant 2003 dollars (adjusted by the Consumer Price Index-Urban). Note also that there is a lag between when increased expenditures are made and when actual revenues are received.

Current Harvest level with 25 percent deduction

The table below shows real revenues in constant 2003 dollars for beneficiaries and management funds, assuming the current harvest level and a maximum deduction of 25 percent for the management funds. Real revenues to beneficiaries fall from $279.3 during the current biennium to $224.8 million during the 2013-15 biennium. Management fund revenues fall from $88.7 million to $74.8 million over the same period.

Figure 6.1

Real Revenues, Expenditures and Management Fund Balances
- Current Harvest level with 25% Deduction
In Million of Real (2003) Dollars

		2003-05	2005-07	2007-09	2009-11	2011-13	2013-15
Revenue to Beneficiaries	$ -	$ 279.3	$ 257.2	$ 233.4	$ 247.2	$ 236.5	$ 224.8
Management Funds Total							
Revenue		$ 88.7	$ 81.1	$ 78.6	$ 82.3	$ 78.7	$ 74.8
Expenditure		$ 95.5	$ 101.7	$ 102.0	$ 104.3	$ 101.2	$ 95.3
Ending Fund Balance	$ 35.0	$ 28.1	$ 7.5	$ (15.9)	$ (38.0)	$ (60.6)	$ (81.1)

To continue the same level of harvest, management fund expenditures are projected to need to be increased next biennium by $6.2 million due to anticipated salary and benefit increases beyond the control of the department. Department-wide expenditures needed to maintain the current harvest level are projected to average over $10 million more per year than anticipated revenues. As a result, the combined management fund balance (RMCA & FDA) falls from a positive $35.0 million to a negative $81.1 million by June 30, 2015.

This means that, at current level of harvest with a 25 percent deduction, the department would not have the financial capacity solely from management funds to generate trust revenue beyond 2009.

Board-Approved Harvest level with 25 percent deduction

The table below shows the impact on real revenues to beneficiaries, management fund revenues, expenditures, and ending fund balances of increasing harvest to the Board-approved harvest level while retaining the 25 percent deduction.

Figure 6.2

Real Revenues, Expenditures and Management Fund Balances
- Board Approved Harvest level with 25% deduction
In Million of Real (2003) Dollars

		2003-05	2005-07	2007-09	2009-11	2011-13	2013-15
Revenue to Beneficiaries	$ -	$ 279.4	$ 274.7	$ 299.9	$ 314.0	$ 304.1	$ 289.3
Management Funds Total							
Revenue		$ 88.7	$ 86.6	$ 101.5	$ 104.7	$ 101.4	$ 96.5
Expenditure		$ 95.5	$ 114.6	$ 119.4	$ 121.3	$ 118.1	$ 111.2
Ending Fund Balance	$ 35.0	$ 28.1	$ 0.0	$ (17.9)	$ (34.4)	$ (51.1)	$ (65.8)

When the new harvest level is fully implemented, revenue to beneficiaries increases by more than $65 million per biennium over that projected under the current harvest level. Management fund revenue increases as well, by over $20 million per biennium.

Generating the higher sales level requires increasing real expenditures by an estimated $16 million per biennium. The result is about a $6 million dollar per biennium increase when the new harvest is fully implemented. The resulting fund balance, while improved, is still a negative $65.8 million at the end of the projection period.

This means that, at the Board-approved harvest with a 25 percent deduction; the department would still not have the financial capacity solely from management funds to generate trust revenue at this level.

Board-Approved Harvest with 30 percent deduction

The table below shows the same information for the Board-approved harvest and a maximum deduction of 30 percent for the management funds. Because the RMCA fund balance falls below the minimum sooner than does the FDA, the RMCA deduction is assumed to increase to 30 percent at the beginning of 2005-07, while the FDA deduction from transfer lands increase to 25 percent at the beginning of the 2007-09 biennium and doesn't increase to 30 percent until the beginning of the 2009-11 biennium.

Figure 6.3

Real Revenues, Expenditures and Management Fund Balances
- Board Approved Harvest level with 30% deduction

In Million of Real (2003) Dollars

		2003-05	2005-07	2007-09	2009-11	2011-13	2013-15
Revenue to Beneficiaries	$ -	$ 279.4	$ 264.8	$ 288.5	$ 293.5	$ 284.3	$ 270.5
Management Funds Total							
Revenue		$ 88.7	$ 96.5	$ 112.8	$ 125.2	$ 121.3	$ 115.4
Expenditure		$ 95.5	$ 114.6	$ 119.4	$ 121.3	$ 118.1	$ 111.2
Ending Fund Balance	$ 35.0	$ 28.1	$ 10.0	$ 3.4	$ 7.4	$ 10.5	$ 14.7

When the new harvest level is fully implemented with a 30 percent management fund level, revenue to beneficiaries will still increase by more than $45 million per biennium over that projected under the current harvest level. Management fund revenue increases as well, by over $40 million per biennium.

Real revenues to beneficiaries remain relatively stable over the projection period rather than falling as they do under the current harvest level, as increased harvest volume offsets both the reduction in real timber prices and the increase in the management fund deduction.

The combined Management Fund balance fall during the first two biennia as the department makes additional expenditures to increase the harvest level. Fund balances fall to near zero in the end of 2007-09 but then increase slightly as harvest increases in subsequent biennia to $14.7 million at the end of the projection period.

This means that at the Board-approved harvest level with a 30 percent deduction, the department would have the financial capability to continue to generate trust revenue at this higher level.

Summary – Financial impact of increasing the harvest level and increasing the maximum management fund deduction to 30percent.

The table below shows the change in real revenues to the beneficiaries and management funds over the projection period from increasing the harvest to the Board-approved level and increasing the maximum management fund deduction to 30 percent. By the end of the decade revenues from trust lands are $86.2 million higher under the board approved harvest level than under the current harvest level. Revenues to beneficiaries are $45.6 million higher than under the current harvest with the 25 percent maximum deduction.

With the 30 percent maximum management fund deduction, management funds increase by $40.6 million. As a result, management fund balances rather than being a negative $81 million at the end of the projection period are a positive $14.7 million, a net improvement of $95.7 million.

Figure 6.4

Change in Real Revenues, Expenditures and Management Fund Balances
- From Current Harvest and 25% Deduction
- To Board Approved Harvest level with 30% deduction

In Million of Real (2003) Dollars

	2003-05	2005-07	2007-09	2009-11	2011-13	2013-15
Revenue to Beneficiaries	$ 0.1	$ 7.6	$ 55.1	$ 46.3	$ 47.8	$ 45.6
Management Funds Total						
Revenue	$ -	$ 15.4	$ 34.3	$ 43.0	$ 42.6	$ 40.6
Expenditure	$ -	$ 12.9	$ 17.4	$ 16.9	$ 16.9	$ 15.9
Ending Fund Balance	$ -	$ -	$ 2.5	$ 19.4	$ 45.4	$ 71.1	$ 95.7

The graphs in Figure 6.5, 6.6 and 6.7 show how the three previously described combinations (see Figures 6.2, 6.3 and 6.4) of harvest level and management fund deduction compare. Five past biennia are also shown on each graph for reference, and reflect actual data (hence they are the same on each graph) or a common projection for 2003-05 biennium. The 2003-05 biennium is also the same on each graph, it is projected; a change in the harvest level or management fund deduction could not be implemented in time to make a significant change in the 2003-05 biennium.

Figure 6.5 Comparison of Harvest Level and Managment Fund Deduction Scenarios

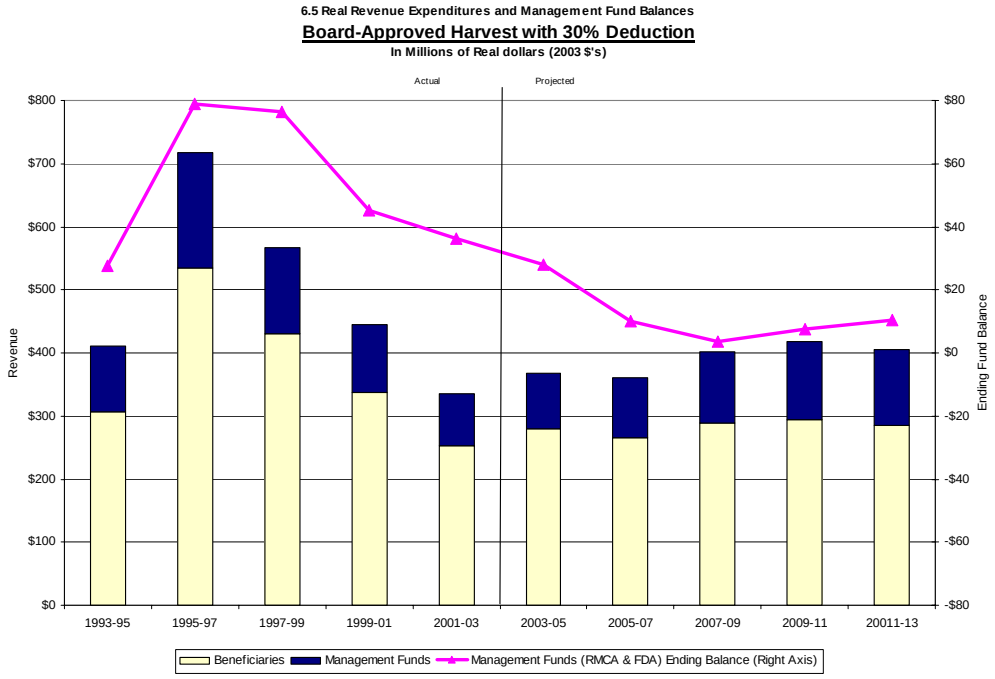


Figure 6.6

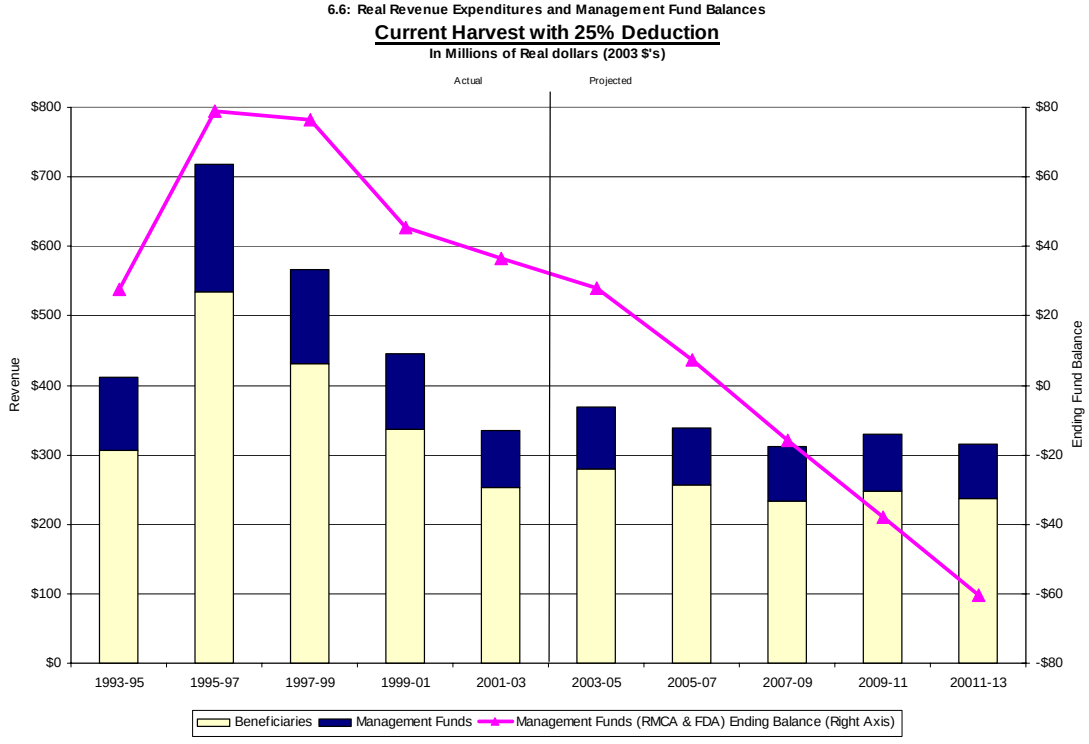
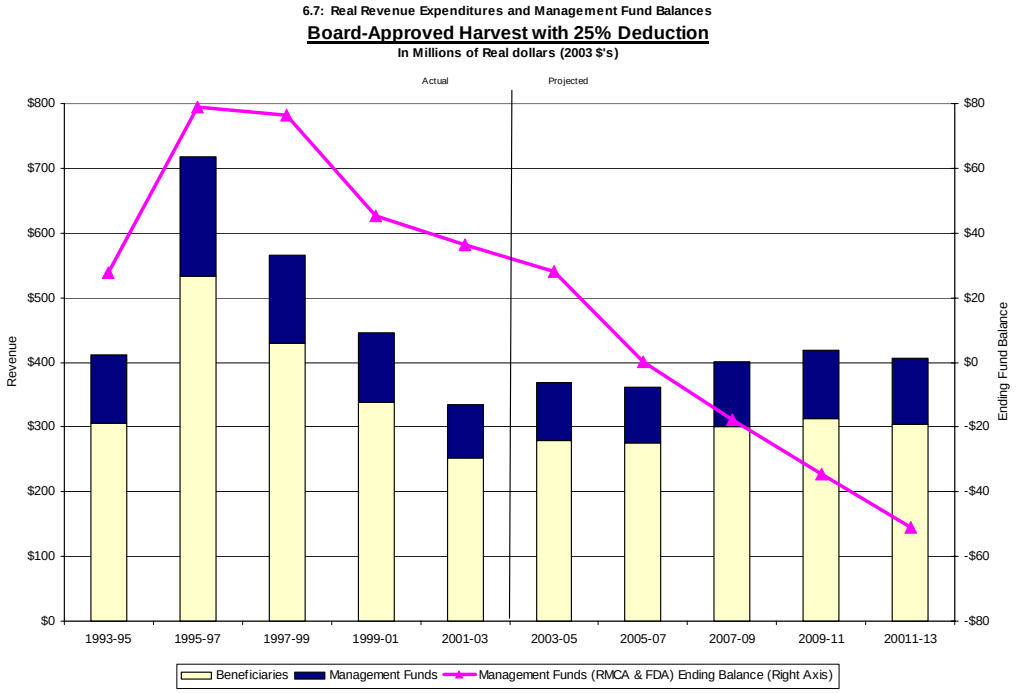


Figure 6.7


6.7: Real Revenue Expenditures and Management Fund Balances
Board-Approved Harvest with 25% Deduction
In Millions of Real dollars (2003 $'s)
Actual
Projected
Revenue
Ending Fund Balance
$800
$700
$600
$500
$400
$300
$200
$100
$0
$80
$60
$40
$20
$0
-$20
-$40
-$60
-$80
1993-95
1995-97
1997-99
1999-01
2001-03
2003-05
2005-07
2007-09
2009-11
20011-13
Beneficiaries
Management Funds
Management Funds (RMCA & FDA) Ending Balance (Right Axis)